

In the claims:

1. (Currently amended) A method of coating a fluorescent light tube having a transparent or translucent main light body and end caps at the opposite ends of the main light body, the method comprising the steps:

heating only the end caps of the fluorescent light tube prior to coating the fluorescent light tube on a coating conveyor system;

- a) loading the fluorescent light tube on a the coating conveyor system;
 - b) feeding the fluorescent light tube to a coating station, which includes a coating machine;
 - c) applying a coating to the fluorescent light tube with the entirety of the end caps uncovered at the coating station for direct contact of the coating with the main light body and with the end caps without any other element physically intervening the coating and the end caps; and
 - d) conveying the coated fluorescent light tube to a stacking and/or packaging station.
2. (Previously presented) A method according to claim 1 further comprising removing excess coating from the end caps of the fluorescent light tube.
3. (Previously presented) A method according to claim 1, further comprising loading a plurality of fluorescent light tubes on the coating conveyor system to form a chain of fluorescent light tubes with gaps therebetween.
4. (Previously presented) A method according to claim 3, further comprising applying the coating to the chain of fluorescent light tubes and gaps.
5. (Previously presented) A method according to claim 4, further comprising separating each fluorescent light tube from the chain after the coating step.
6. (Original) A method according to claim 4, further comprising cooling the chain after the coating step.

7. (Original) A method according to claim 1, further comprising applying a vacuum during the coating step.

8. (Previously presented) A method according to claim 1, further comprising preheating a portion of the fluorescent light tube before the loading step.

9. (Original) A method according to claim 1 wherein the coating step further comprises extruding a molten thermo-plastic material.

10. (Currently amended) A method for coating fluorescent light tubes having a transparent or translucent main light body and end caps at the opposite ends of the main light body the method comprising the steps:

heating only the end caps of a plurality of fluorescent light tubes prior to coating the light tubes;

a) conveying the plurality of light tubes sequentially in longitudinal alignment with one another; and

b) extruding a coating of molten thermo-plastic material about each light tube with the entirety of the end caps uncovered such that the coating is substantially in direct intimate contact with the main light body and with the end caps without any other element physically intervening the coating and the end caps.

11. (Original) The method according to claim 10, further comprising cooling the coating below the softening temperature of the thermo-plastic material after the coating step.

12. (Original) The method according to claim 10, further comprising heating the end caps of the plurality of light tubes before the conveying step.

13. (Original) The method according to claim 10, further comprising applying a vacuum during the extruding step.

14. (Original) The method according to claim 12, wherein the step of heating the end caps comprises applying an infra-red heater to the end caps.

15. (Previously presented) The method according to claim 11, wherein the step of conveying the plurality of light tubes comprises impelling each light tube in advance of the extruding step and impelling each light tube following the cooling step.

16. (Original) The method according to claim 11, wherein the cooling step comprises applying a coolant to the light tubes.

17. (Original) The method according to claim 16, wherein the cooling step comprises applying a water bath to the light tubes.

18. (Original) The method according to claim 16, wherein the cooling step comprises applying air to the light tubes.

19. (Original) The method according to claim 10, wherein the extruding step comprising extruding a continuous coating of molten thermo-plastic material thereby connecting sequentially coated light tubes.

20. (Original) The method according to claim 19 further comprising separating the continuous coating between the end caps of sequential light tubes.

21. (Original) The method according to claim 20, wherein the separating step comprises applying a cutting tool to the continuous coating between the end caps of sequential light tubes.

22. (Original) The method according to claim 20, further comprising accelerating each light tube to effect separation between sequential light tubes.

23. (Original) The method according to claim 10, further comprising trimming excess coating from the end caps of the light tubes and labeling the light tubes.

24. (Original) The method according the claim 10, further comprising automatically controlling the conveying and feeding steps via a controller
25. (Original) The method according the claim 12, further comprising automatically controlling the heating, conveying, and feeding steps via a controller.
26. (Original) The method according the claim 11, further comprising automatically controlling the conveying, feeding, and cooling steps via a controller
27. (Original) The method according the claim 20, further comprises automatically controlling the conveying, feeding, and separating steps via a controller.
28. (Original) The method according the claim 22, further comprises automatically controlling the conveying, feeding, separating, and accelerating steps via a controller.
29. (Original) The method according the claim 23, further comprises automatically controlling the conveying, feeding, trimming and labeling steps via a controller.
30. (Original) The method according to claim 10, wherein the coating step further comprises maintaining a uniform thickness of the molten thermo-plastic material encircling the light tubes to between about 10 mil and about 22 mil.
31. (Original) The method according to claim 30, wherein the coating step further comprises maintaining a uniform thickness of the molten thermo-plastic material encircling the light tubes to between about 14 mil and about 20 mil.
32. (Original) The method according to claim 30, wherein the coating step further comprises maintaining a uniform thickness of the molten thermo-plastic material encircling the light tubes to between about 16 mil and about 18 mil.

33. (Previously presented) The method according to claim 10, wherein the conveying step comprises maintaining a gap between sequential light tubes at a length of between about 0.5 inch and about 2.5 inches.

34. (Previously presented) The method according to claim 33, wherein the conveying step comprises maintaining a gap between sequential light tubes at a length of between about 1.0 inch and about 2.0 inches.

35. (Previously presented) The method according to claim 33, wherein the conveying step comprises maintaining a gap between sequential light tubes at a length of about 1.5 inch.

36. (Original) The method according to claim 10, further comprising the step of adjusting a rate of travel of the light tubes by regulating the conveying step.

37. (Original) The method according to claim 36, wherein the adjusting step comprises maintaining the travel rate at between about 16 ft/min and about 60 ft/min.

38. (Currently amended) A method for coating fluorescent light tubes having a transparent or translucent main light body and end caps at the opposite ends of the main light body, the method comprising the steps:

- a) heating only the end caps of a plurality of light tubes prior to coating the light tubes;
 - b) conveying the plurality of light tubes sequentially in longitudinal alignment with one another;
 - c) extruding a coating of molten thermo-plastic material about each light tube with the entirety of the end caps uncovered while applying a vacuum to evacuate air from between each light tube and the coating to promote direct intimate contact of the coating with the main light body and with the end caps of each light tube without any other element physically intervening the coating and the main light body and the end caps;
 - d) cooling the coating below the softening temperature of the thermo-plastic material;
- and

e) separating each light tube from the plurality of light tubes.

39. (Original) The method according to claim 38, further comprising automatically controlling the heating, conveying, extruding, cooling and separating steps via a controller.

40. (Original) The method according to claim 38, further comprising accelerating each light tube after the separating step.

41. (Original) The method according to claim 38, further comprising trimming excess coating from each light tube after the separating step.

42. (Original) The method according to claim 39, further comprising labeling each light tube.

43. (Withdrawn) A machine for coating a plurality of fluorescent light tubes comprising:

- a) a heating table; and
- b) a cross head extruder

wherein the plurality of light tubes is preheated on the heating table before being fed to the cross head extruder.

44. (Withdrawn) The machine according to claim 43, further comprising a vacuum assembly attached to the cross head extruder to apply a vacuum therein to promote a direct and intimate contact between the plurality of light tubes and the coating of a molten thermo-plastic material extruded by the cross head extruder.

45. (Withdrawn) The machine according to claim 43, wherein the heating table comprises a plurality of infra-red panels.

46. (Withdrawn) The machine according to claim 43, further comprising a cooling station disposed adjacent to the cross head extruder for cooling the plurality of light tubes therein.

47. (Withdrawn) The machine according to claim 46, wherein the cooling station comprises a chilled water bath.

48. (Withdrawn) The machine according to claim 46, wherein the cooling station comprises an air supply.

49. (Withdrawn) The machine according to claim 46, further comprising a cutting station for separating the plurality of light tubes, the cutting station disposed adjacent the cooling station.

50. (Withdrawn) The machine according to claim 49, wherein the cutting station comprises a cutting tool.

51. (Withdrawn) The machine according to claim 50, wherein the cutting station comprises a heated shearing system.

52. (Withdrawn) The machine according to claim 43, further comprising an acceleration system to effect separation of the plurality of light tubes.

53. (Withdrawn) The machine according to claim 43, further comprising a trimming station for removing excess coating from the plurality of light tubes.

54. (Withdrawn) The machine according to claim 43, further comprising a labeling station for labeling the plurality of light tubes.

55. (Withdrawn) The machine according to claim 43, further comprising a control unit connected thereto for automatic control thereof.

56. (Canceled)